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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/572,723	03/21/2006	Michael John Moreton	6546500006USPX	3400

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EXAMINER

MEHRPOUR, NAGHMEH

ART UNIT	PAPER NUMBER
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2617

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05/13/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/572,723	Applicant(s) MORETON, MICHAEL JOHN	
	Examiner MELODY MEHRPOUR	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 January 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. **Claims 1-6, 8-13, 15-18, 20**, are rejected under 35 U.S.C. 102(e) as being anticipated by Terry (US publication 2005/0147075 A1).

Regarding claims 1, 11, 15, 17, Terry teaches a method of handling data packets in a Wireless Local Area Network (WLAN), comprising:

- (a) contending for control of a medium over which data is to be transmitted, by a plurality of nodes in the network (0042);
- (b) when control of the medium has been established by a first node in the network **by the contention in step (a)**, transmitting a first data packet from that first node, which has control of the medium, to a second node in the network (0044, 0045);
- (c) receiving, at that second node, the transmitted data packet (0044);
- (d) generating, at that second node, a combined data/acknowledgement packet which contains both an acknowledgement of receipt of the said first data packet by the said

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second node and also a second data packet intended for delivery to the said first node from the said second node (0047); and

(e) transmitting the said combined data/acknowledgement packet from the said second node to the said first node (0044, 0045, 0046, 0047).

Regarding claims 2, 12, Terry teaches a method of claim 1, further comprising:

(f) receiving, at the first node, the said combined data/acknowledgement packet (0047);

(g) generating, at that first node, a further combined data/acknowledgement packet which contains both an acknowledgement of receipt of the said second data packet by the said first node and a third data packet intended for delivery to the said second node from the said first node (0044, 0045, 0047); and

(h) transmitting the further combined data/acknowledgement packet from the said first node to the said second node (0044, 0046, 0047).

Regarding claim 3, Terry teaches a method of claim 2, further comprising:

(i) receiving at the second node, the said further combined data/acknowledgement packet (0047);

(j) generating, at that second node, a still further combined data/acknowledgement packet which contains both an acknowledgement of receipt of the said third data packet by the said second node and a fourth data packet intended for delivery to the said first node from the said second node (0047); and

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(k) transmitting the still further combined data/acknowledgement packet from the said second node to the said first node (0047).

Regarding claim 4, Terry inherently teaches a method of claim 3, further comprising: iteratively repeating steps (f) to (h) for each of the fifth, sixth, seventh, . . . n.sup.th data packets (0047, 0048, 0049, 0050).

Regarding claims 5, 20, Terry teaches a method of claim 4, wherein the iterative repetition terminates when either a maximum time of medium control by the first node is reached, or when there are no further data packets to be transmitted (0007, 0043, 0054).

Regarding claims 6, 13, 18, Terry teaches a method of claim 1, wherein the step (a) of contending for control of the medium is carried out in accordance with carrier sense multiple access with collision avoidance (CSMA/CA) (0054).

Regarding claim 8, Terry teaches a method of claim 2, further comprising, following receipt of the, or the further, data/acknowledgement packet, the step of extracting, from that data/acknowledgement packet, the data contained therein, and extracting the acknowledgement therefrom as well (0047, 0077).

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Regarding claims 9, 16, Terry teaches a method of claim 8, wherein the step of extracting are carried out when it is determined by the receiving node either that the received packet is longer than an acknowledgement of receipt alone (0047), or that the received packet has a header which indicates that both data and acknowledgement are contained therein.

Regarding claim 10, Terry teaches a method of any claim 1, wherein the step of generating a combined data/acknowledgement packet comprises either concatenating an IEEE 802.11 ACK frame with a data payload, or comprises altering a header to an IEEE 802.11 data frame to indicate that the frame carries both a data payload and an acknowledgement of receipt (0004).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 7, 14, 19**, are rejected under 35 U.S.C. 103(a) as being unpatentable over Terry (US publication 2005/0147075 A1) in view of Tao (US Publication 2006/0056443 A1).

Regarding claims 7, 4, 19, Terry fails to teach a method of claim 6, wherein the step (a) of contention for control of the medium is in accordance with Enhanced Distributed Coordination Function Channel Access (EDCA). However, Tao teaches a method of claim 6, wherein the step (a) of contention for control of the medium is in accordance with Enhanced Distributed Coordination Function Channel Access (EDCA) (0092). Therefore, it would have been obvious to ordinary skill in the art at the time the invention was made to combine the above teaching of Tao with Terry, in order to aggregate MAC service data units to achieves a substantial improvement in throughput without increasing the complexity of the protocol.

Response to Arguments

4. Applicant's arguments filed 1/27/09 have been fully considered but they are not persuasive.

In response to the applicant's argument that Terry does not teach *using ACK+Data response when the medium is contention mode controlled by DCF*.

The examiner asserts that When implemented, PCF takes priority over DCF in that a contention free period (CFP) 28 is established whereby station A may send its data messages without contending for a time slot. During the CFP 28, other stations stand by and await either a poll by the PC during the CFP 28 or a contention period (CP) 29 in which the various stations contend for a slot as in DCF above. Additional

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details of PCF are provided below. In a particular embodiment, the first network entity is a point coordinator PC of a wireless network basic service set BSS operating during a contention free period CFP, the control message is a poll of the second network entity, and the PC may respond with an **ACK message combined with a data message** for the first network entity. Preferably, where the PC sends a poll of a third network entity during the same CFP as the poll of the second network entity, and the PC fails to receive a response from the third network entity within a first time period such as a SIFS, the PC then polls a fourth network entity within a second time period such as a PIFS that is no greater than twice the first time period. Where the PC receives from a network **entity an ACK message combined with a data message, the PC may respond with an ACK message combined with a separate control message that signals an end of a contention free period**. In the 802.11 standard, for example, such a message from the PC would be a combined ACK and CFP-End message.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., mixing PCF and DCF) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Conclusion

5. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

6. **Any responses to this action should be mailed to:**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MELODY MEHRPOUR whose telephone number is 5(571)272-791313. The examiner can normally be reached on 8:00 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dwayne Bost can be reached (571) 272-7023.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Naghmeh Mehrpour/

Primary Examiner, Art Unit 2617

May 10, 2009